

APPENDIX
Amended Claims

WHAT IS CLAIMED IS:

1. An isolated polynucleotide that encodes a polypeptide comprising a sequence of amino acid residues that is at least 90% identical to an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 23 (Phe), to amino acid number 223 (Phe); and

(b) the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 1 (Met), to amino acid number 223 (Phe).

2. An isolated polynucleotide molecule selected from the group consisting of:

(a) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO:1 from nucleotide 285 to nucleotide 890;

(b) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO:1 from nucleotide 222 to nucleotide 890; and

(c) polynucleotide molecules complementary to (a) or (b).

3. An isolated polynucleotide sequence according to claim 1, wherein the polynucleotide comprises nucleotide 1 to nucleotide 669 of SEQ ID NO:8.

4. An isolated polynucleotide that encodes a polypeptide comprising a sequence of amino acid residues from the group consisting of:

(a) the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 23 (Phe), to amino acid number 223 (Phe); and

(b) the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 1 (Met), to amino acid number 223 (Phe).

5. An isolated polynucleotide according to claim 4, wherein the polynucleotide encodes a polypeptide that consists of a sequence of amino acid residues as shown in SEQ ID NO:2 from amino acid number 23 (Phe), to amino acid number 223 (Phe).

6. The isolated polynucleotide molecule of claim 1, wherein the polynucleotide encodes a polypeptide that contains motifs 1, 2, 3, 4 and 5 spaced apart from N-terminus to C-terminus in a configuration M1-{25-26}-M2-{15}-M3-{11}-M4-{34-36}-M5.

wherein M1 is "motif 1," a sequence of amino acids as shown in amino acids 118 to 120 of SEQ ID NO:2,

M2 is "motif 2," a sequence of amino acids as shown in amino acids 146 to 148 of SEQ ID NO:2,

M3 is "motif 3," a sequence of amino acids as shown in amino acids 164 to 166 of SEQ ID NO:2,

M4 is "motif 4," a sequence of amino acids as shown in amino acids 178 to 180 of SEQ ID NO:2, and

M5 is "motif 5," a sequence of amino acids as shown in amino acids 215 to 217 of SEQ ID NO:2, and

{#} denotes the number of amino acids between the motifs.

7. An expression vector comprising the following operably linked elements:

a transcription promoter;

a DNA segment encoding a polypeptide that is at least 90% identical to an amino acid sequence as shown in SEQ ID NO:2 from amino acid number 23 (Phe), to amino acid number 223 (Phe); and

a transcription terminator,

wherein the promoter is operably linked to the DNA segment, and the DNA segment is operably linked to the transcription terminator.

8. An expression vector according to claim 7, further comprising a secretory signal sequence operably linked to the DNA segment.

9. A cultured cell into which has been introduced an expression vector according to claim 7, wherein the cell expresses the polypeptide encoded by the DNA segment.

10. A DNA construct encoding a fusion protein, the DNA construct comprising:

a first DNA segment encoding a polypeptide comprising a sequence of amino acid residues 1 (Met) through 25 (Gly) of SEQ ID NO:2; and

a second DNA segment encoding an additional polypeptide,

wherein the first and second DNA segments are connected in-frame; and

encode the fusion protein.

22. An expression vector comprising the following operably linked elements:

a transcription promoter;

a DNA segment encoding a polypeptide comprising an amino acid sequence as shown in SEQ ID NO:2 from amino acid number 23 (Phe), to amino acid number 223 (Phe); and

a transcription terminator,

wherein the promoter is operably linked to the DNA segment, and the DNA segment is operably linked to the transcription terminator.

23. An expression vector according to claim 22, further comprising a secretory signal sequence operably linked to the DNA segment.

24. A cultured cell into which has been introduced an expression vector according to claim 22, wherein the cell expresses the polypeptide encoded by the DNA segment.

25. A method of producing a polypeptide comprising:
culturing a cell according to claim 24; and
isolating the polypeptide produced by the cell.